

CLAIMS

I claim:

1. A process for the activation of a supported catalyst comprising a support, chromium and titanium, said process comprising:
 - 5 (a) contacting said catalyst in a reactor at a temperature of between about 370-540°C (700-1000°F) with an atmosphere consisting essentially of an inert gas; and then
 - (b) introducing an oxidant into said reactor so that the temperature of said reactor does not exceed about 510°C (950°F), and then
 - 10 (c) completing the activation of said catalyst; and
 - (d) obtaining said catalyst.
2. The process according to Claim 1, wherein step (c) further comprises contacting said catalyst in said reactor with an atmosphere consisting essentially of air.
- 15 3. The process according to Claim 2, wherein step (c) further comprises contacting said catalyst in said reactor with an atmosphere consisting essentially of air between about 425°C (800°F) and about 870°C (1600°F).
- 20 4. The process according to Claim 1, wherein the temperature of the reactor in (a) does not exceed about 400°C (750°F), and the temperature of said reactor in (b) does not exceed about 425°C (800°F).
- 25 5. The process according to Claim 1, wherein said oxidant is air.
6. The process according to Claim 5, wherein both (a) and (b) include a step wherein the gases introduced into the reactor are preheated to a temperature of about 400°C or less.

7. The process according to Claim 6, wherein both (a) and (b) include a step wherein the gases introduced into the reactor is preheated to a temperature of about 200°C or less.

5 8. The process according to Claim 1, wherein said supported catalyst further comprises a metal selected from the group consisting of zirconium, aluminium, boron, and mixtures thereof.

9. The process according to Claim 1, wherein said support is silica.

10 10. The process according to Claim 1, wherein said support is silica-alumina.

11. The process according to Claim 1, wherein (b) includes controlling the reactor temperature by controlling the amount of oxidant introduced into the reactor.

12. The process according to Claim 5, wherein (b) includes controlling the reactor temperature by controlling the temperature of the air introduced into the reactor.

20 13. The process according to Claim 5, wherein (b) includes controlling the reactor temperature by controlling the amount of the air introduced into the reactor and controlling the temperature of the air introduced into the reactor.

25 14. The process according to Claim 5, wherein in (a) the inert gas is preheated to a temperature of about 450°C (850°F) and then is preheated to a temperature of no more than 200°C (400°F).

30 15. The process according to Claim 1, wherein said catalyst further comprises hydrocarbon residues present on the support as a result of the deposition of chromium and titanium thereon from solution.

16. A supported chromium and titanium-based catalyst, optionally further comprising at least one of aluminum, boron, and zirconium, activated by the process according to Claim 1.

5 17. A polyethylene comprising the residue of a catalyst activated according to the process of Claim 1.

18. An article comprising polyethylene according to Claim 17.